REMARKS/ARGUMENTS

1.)   Claim Amendments

Claims 1-25 are pending in the application. The Applicant has amended claims 1 and 24. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.)   Claim Rejections – 35 U.S.C. § 102(e)

On Page 2 of the Office Action, The Examiner rejected claims 1-25 under 35 U.S.C. § 102(e) as being anticipated by Walton, et al. (US 2004/0082356 A1). The Applicant has amended the claims to better distinguish the claimed invention from Walton. The Examiner's consideration of the amended claims is respectfully requested.

A primary difference between the Applicant's claimed invention and Walton is that Walton is applicable to a time division duplexing (TDD) system in which the terminal can use channel reciprocity to determine the optimum transmit weights. This is because in TDD systems, the channel is reciprocal. The terminal assumes that the access point, which also knows the channel, will determine the transmit weights in a known way, for example as one or several eigenmodes. Hence, the terminal can then use the channel estimates, and from it estimate what kind of weights the access point will use. Using the weights together with the channel estimate, the terminal can estimate an SNR or a rate and report back. Note that in Walton it is never stated that the access point signals to the terminal what the eigenmode is, or what the transmission weights are. This is because the terminal is to assume that the weights are determined as an eigenmode of the channel, and the terminal further assumes that the access point has the same knowledge of the channel.

Thus in Walton, the transmit weights are determined independently in the terminal and the access point and the weights are not interchanged.

In the Applicant's claimed invention, on the other hand, the access point determines the set of possible weights and signals the possible spatial transport formats (i.e., possible transmit weights) to the terminal. The terminal then evaluates the quality for the different weights and reports back the quality for each weight.

The terminal then uses the different weights together with a channel estimate to determine the SNR or a data rate. Thus, the Applicant's claimed invention is applicable for frequency division duplexing (FDD) systems while Walton is not. The claimed invention does not require that the terminal and the access point both know the channel. In the claimed invention, the access point only needs to know which transport format is the best.

The Applicant has amended independent claims 1 and 24 to recite that the communication system utilizes FDD (and thus does not have channel reciprocity) and that the access point signals the active set of transport formats, including transmission weights, to the mobile terminal. Walton cannot operate in this manner because the access point in Walton does not signal the weights to the mobile terminal. Instead, Walton's terminal freely optimizes the weights, for example from an eigenvalue decomposition of the channel, and feed backs the channel quality (e.g., rate or SNR) under the assumptions that those weights will be used. There is no way for Walton's access point to control which set of weights a terminal will use and report the quality for.

Thus, the invention recited in amended claims 1 and 24 is not taught or suggested by Walton. Therefore, the allowance of claims 1 and 24 is respectfully requested.

Claims 2-23 and 25 depend from amended claims 1 and 24, respectively, and recite further limitations in combination with the novel elements of claims 1 and 24. Therefore, the allowance of claims 2-23 and 25 is respectfully requested.

3.) Conclusion

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1-25.